Early Maladaptive Schemas, Body Image, and Self-Esteem in Iranian Patients Undergone Cosmetic Surgery Compared with Normal Individuals

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A B S T R A C T

Objective: The interest in cosmetic surgery has increased dramatically during recent years and psychologists have focused on the associations of this interest. The present study aimed to compare cosmetic surgery patients and normal individuals in terms of their early maladaptive schemas (EMSs), body image (BI), and self-esteem, as well as investigate the relationships of EMSs and self-esteem with BI.

Methods: 120 university students (60 patients with cosmetic surgery and 60 normal individuals) completed the Short Form of the Young Schema Questionnaire (YSQ-SF), Multidimensional Body-Self Questionnaire (MBSRQ), and Cooper-Smith Self-Esteem Test (CSEI). To investigate data, multivariate analysis of variance, Pearson correlation coefficient test, and multiple regressions were administered. SPSS-20 software was used for statistical analysis.

Results: Groups study showed significant differences in their appearance evaluation. Findings indicated significant correlations between domains of disconnection and rejection, impaired autonomy, and self-esteem with BI. Also, results indicated that EMSs and self-esteem were the significant predictors of BI.

Conclusion: Cosmetic surgery can improve one's appearance, but to gain a comprehensive understanding of its causes and outcomes, we must consider various social and psychological factors and their interactions.

1. Introduction

Cosmetic surgery refers to a subspecialty that is concerned with the maintenance, restoration, or enhancement of physical appearance through surgical and medical techniques (Swami, Chamorro-Premuzic, Bridges, & Furnham, 2009). According to the American Society of Plastic Surgeons (ASPS, 2012), 14.6 million cosmetic surgeries were performed in 2012, up 5 percent since 2011. In Iran, the interest in cosmetic surgery has also increased dramatically during recent years. According to the International Study on Aesthetic/ Cosmetic Procedures (ISAPS) in 2013, Iran is among the top ten countries with the highest rate of cosmetic surgery in the world. According to ISAPS, in 2013 more than 175000 surgical and non-surgical procedures performed in Iran. Given this dramatic increase in cosmetic surgery, it is no surprise that psychologists have focused their attention on the correlates of interest in cosmetic surgery. For instance, recent works have examined the relationships between interest in cosmetic surgery and self-assessed attractiveness and appearance evaluation (Brown, Furnham, Glanville, & Swami, 2007; Swami et al., 2009;

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Table 1. The results of MANOVA to compare patients with cosmetic surgery and normal individuals on EMSs

Variables	Groups	Mean	SD	F	Sig
Disconnection/rejection	Cosmetic surgery group Control group	2.02 2.07	0.668 0.588	0.151	0.698
Impaired autonomy	Cosmetic surgery group Control group	1.66 1.63	0.670 0.712	0.047	0.828
Impaired limits	Cosmetic surgery group Control group	2.99 2.90	0.826 0.975	0.298	0.586
Other-directedness	Cosmetic surgery group Control group	2.56 2.41	0.779 0.737	1.174	0.281
Overvigilance	Cosmetic surgery group Control group	2.98 2.88	0.710 0.897	0.443	0.507

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Von Soest, Kvalem, Skolleborg, 2009), media exposure (Sarwer et al., 2003; Swami, 2009; Sperry, Thompson, Sarwer, & Cash, 2009), personality traits (Massoudza-deh, Karkhaneh Yousefi, & Thirgari, 2009), negative body image (BI) or dissatisfaction with BI (Sarwer, Wadden, Pertschuk, & Whitaker, 2000; Pasha, Naaderi, & Akbari, 2008; Callaghan, Lopez, Wong, Northcross, & Anderson, 2011; Mohammadpanah & Yousefi, 2011), self-esteem and self-concept (Swami et al., 2009; Bassak Nejad, 2011), and Psychopathology (Gabouri & Devon, 2003; Bellino et al., 2006; Zojaji, Javanbakht, Ghanadan, Hosien, & Sadeghi, 2007; Sohrabi, Aliloo, & Rasooli Azad, 2011).

BI has long been considered central to understanding the psychological characteristics of cosmetic surgery seekers. Clinical reports have indicated that these individuals express increased dissatisfaction with their bodies preoperatively (Sarwer, 2002). BI refers to "the multifaceted psychological experience of embodiment, and encompasses evaluative thoughts, beliefs, feelings, and behaviors related to one's own physical appearance" (Cash, 2004). Sarwer, Wadden, Pertschuk, and Whitaker (1998) proposed a theoretical model for the relationship between BI and cosmetic surgery, in which both physical and psychological factors influence the decision to seek cosmetic surgery. According to various studies, exposure to superficial and unrealistic media images and experiencing the sociocultural pressure for being attractive may cause BI dissatisfaction (Swami, 2007; Jarry & Kossert, 2007; Clark & Tiggemann, 2008; Dittmar, 2009; Swami, 2009). Body dissatisfaction occurs when one experiences negative thoughts and feelings about his or her body or overall physical attractiveness (Cash & Pruzinsky, 2002). Henderson-King and Henderson-King (2005) believe that increase in seeking cosmetic surgeries is associated with a decrease in BI satisfaction and fear of unattractiveness.

According to cognitive perspective, disturbed BI is the consequence of irrational thoughts, unrealistic expectations, and incorrect interpretations. Moreover, how much individuals invest in their appearance depends greatly on their core appearance-related self-schemas (Cash, 2002). Some studies suggest that appearance-related schemas can mediate the relationship between BI dissatisfaction and sociocultural pressures for attractiveness (Clark & Tiggemann, 2008; Ip & Jarry, 2008). Negative self-schemas are dysfunctional, self-harming emotional and cognitive patterns, which develop during childhood, elaborate throughout life time, and affect interpretation from the experiences and relationships (Young, Klosko, & Weishoar, 2003). Young (2003) theorized 18 different early maladaptive schemas (EMSs) that fall into 5 broad domains: disconnection and rejection, impaired autonomy and performance, impaired limits, other-directedness, and overvigilance/inhibition.

Some studies indicated associations between EMSs and pathological eating behavior (Leung, Waller, & Thomas, 1999; Stein & Corte, 2008), negative BI (Stein & Corte, 2008), and appearance schemas (Ledoux, Winterowd, Richardson, & Dorton Clark, 2010). According to Cash (2002), people engage in a range of actions and reaction to cope with distressing BI thoughts and emotions, including avoidance, appearance fixing, and rational positive acceptance. He suggested that dysfunctional BI schemas are significantly correlated with the use of the first two strategies. It is assumed that EMSs lead in BI dissatisfaction and interest in cosmetic surgery through affecting one's self-esteem (kirsch, 2009), interpretations, and decision-making.

Self-esteem is another variable that may have an important role in seeking cosmetic surgery through its relationship with different psychological constructs, especially BI. Many studies have confirmed the relationship between self-esteem and BI (Thompson, 1990; Keeton,

Table 2. The results of MANOVA to compare patients with cosmetic surgery and normal individuals on BI

Variables	Groups	Mean	SD	F	Sig
AE	Cosmetic surgery group Control group	4.01 3.68	0.664 0.785	6.039	0.015
AO	Cosmetic surgery group Control group	4.00 3.86	0.635 0.592	1.568	0.213
FE	Cosmetic surgery group Control group	3.78 3.55	0.848 0.880	2.085	0.151
FO	Cosmetic surgery group Control group	3.50 3.43	0.765 0.818	0.229	0.633

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Cash, & Brown, 1990; Webster & Tiggeman, 2003; Mirza, Davis, & Yanovski, 2005; Askary & Shabaki, 2010; Bassak Nejad, 2011). Cash (2002) suggested that positive self-concept can facilitate the development of positive body evaluation and act as a shield against events that threaten BI, while poor self-esteem may increase individual's BI vulnerability toward media images (Jarry & Kossert, 2007). Also, Swami et al. (2009) showed that self-esteem was positively associated with self-assessed attractiveness, which was negatively associated with seeking cosmetic surgery.

Does cosmetic surgery enhance BI and self-esteem? Up to now, various studies have shown that patients undergone cosmetic surgery report a reduced BI dissatisfaction and an increased self-esteem postoperatively (Sarwer et al., 2000; Majdi, 2002; Honigman, Phillips, and Castle, 2004; Sarwer, 2005, Whitaker, 2005; Holdun, Komburoglu, & Ozgur, 2007). However, studies reported mixed results; According to Sarwer (2002), numerous methodological problems raise questions about their findings' validity and leave this question unanswered. Given the significant increase in cosmetic surgery and due to the irretrievable outcomes of these procedures, the clear understanding of its contributors and outcomes can help experts to prevent unnecessary surgeries and administer efficient psychological intervene. Thus, the present study aimed to compare EMSs, BI, and self-esteem in patients with cosmetic surgery and normal people, and investigate the relationships between EMSs and self-esteem with BI as an important factor in seeking cosmetic surgery.

2. Methods

Participants

The present study was a cross-sectional correlational study. One hundred and twenty university students of the University of Guilan were selected using snowball sampling method. . Of them, 60 students underwent rhinoplasty, and 60 students had no history of cosmetic surgery. Due to the unclear population size, the sample size was calculated using the necessary number of participants needed to produce valid results (Tabachnick & Fidell, 2001; Stevens, 2002). Snowball sampling method was used due to the unusual characteristic of the population, and due to the lack of clear data about the population and its distribution. Thus, as patients with cosmetic surgery were more likely to have friends with such history, we used this sampling method to find people who underwent cosmetic surgery.

When students were at the university campus, they were asked to participate in a research project. For this aim they were asked about having cosmetic surgery history. Individuals with this background were asked about the reason of their decision; people with serious health problems or special clinical situation were excluded from the study. In the normal group, students were asked about their future plan for undergoing cosmetic surgery. Again, individuals who were likely to have such surgeries were omitted from the study. Finally, after taking their consent and ensuring the anonymity of the questionnaires, the participants were asked to answer the questionnaires. At the end, they were thanked for their cooperation. The participants did not receive any cash bonus.

Measures

Short Form of Young Schema Questionnaire (YSQ-SF) (Young et al., 2003) is a 75-item questionnaire evaluating 15 EMSs in 5 domains, including disconnection and rejection, impaired autonomy and performance, impaired limits, other-directedness, and overvigilance/inhibition. Respondents are asked to rate each statement on a Likert scale (1-6). Various studies have supported YSQ-SF's validity and reliability in Iranian samples (Ahi, Mohammadi Far, & Besharat, 2007; Divandari, Ahi, Akbari, & Mahdian, 2009). For example, Divandari et al. (2009) reported this questionnaire's subscales' internal consistency in a range between 0.65 and 0.93. In the

Table 3. The results of MANOVA to compare patients with cosmetic surgery and normal individuals on self-esteem

Variables	Groups	Mean	SD	F	Sig
Personal self-esteem	Cosmetic surgery group Control group	18.60 17.70	4.737 4.600	1.117	0.293
Social self-esteem	Cosmetic surgery group Control group	5.80 5.57	1.070 1.630	0.859	0.356
Academic self-esteem	Cosmetic surgery group Control group	5.33 5.42	1.422 1.533	0.095	0.758
Familial self-esteem	Cosmetic surgery group Control group	5.53 5.67	1.578 1.772	0.189	0.664
Total self-esteem	Cosmetic surgery group Control group	35.27 34.55	6.514 7.878	0.482	0.489

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present study, Cronbach's α-s for the five subscales were obtained as follows: disconnection and rejection 0.87; impaired autonomy and performance 0.92; impaired limits 0.79; other-directedness 0.79; and overvigilance/inhibition 0.74.

Multidimensional Body-Self Relations Questionnaire (MBSRQ) (Cash, 2000) is a well-validated assessment of specific facets of BI attitudes. The present study used the 34-item version of this questionnaire that assesses appearance-related BI to appraise four appearance-related and fitness-related subscales, including appearance evaluation (AE), appearance orientation (AO), fitness evaluation (FE), and fitness orientation (FO). Respondents are asked to rate each statement on a 5-point Likert scale. Various studies have supported its acceptable psychometric proprieties in Iranian samples (Rahati, 2004; Golparvar, Kamkar, & Rismanchian, 2007). Rahati (2004) reported its internal consistency as follows: AE; α= 0.67; AO: α= 0.79; FO: α= 0.57; FE: α= 0.83. This scale showed good internal consistency in the present study as follows: AE: α= 0.83; AO: α= 0.83; FE: α= 0.61; FO: α= 0.88.

Cooper-Smith self-esteem test (CSEI) was presented by Cooper Smith (1967). This questionnaire was based on a review of previous sources. This scale contains 58 yes-no items, assessing 4 subscales, including: personal, social, academic, and familial self-esteem. This scale also contains 8 lie-detector items, and so the highest total score one can gain is 50. Nayebi Fard (2003) supported its psychometric properties in Iranian sample. Different studies reported its internal consistency in a range between 0.83 and 0.89. In the present study, Cronbach's α-s for the total self-esteem was 0.85.

MANOVA (multivariate analysis of variance) was used to compare the groups regarding EMSs, BI, and self-esteem. In addition, Bonferroni adjustment was made to reduce type I error when multiple paired comparison tests are performed. Thus, the significance level of alpha for EMSs, BI, and self-esteem changed from 0.05 to 0.01. Pearson correlation coefficient test and multiple regressions were administered to investigate the relations among the variables.

3. Results

In the present study, the patients group consisted 42 females (70%) and 18 males (30%) (mean age: 24.77±4.652 y), and the control group consisted 47 females (78.3%) and 13 males (21.7%) (mean age: 26.10±6.030 y). The groups had no significant difference according to their age (P = 0.178), Gender (P = 0.297), education (P = 0.269), and economical situation (P = 0.555).

Table 1 shows the results of MANOVA that was conducted to examine groups' differences on EMSs. Results of Wilk's Lambda showed no significant difference (F $(5, 114) = 0.51$; $P > 0.01$; Wilk's Lambda = 0.98; Partial $\eta2 = 0.002$). Results of separate analysis indicated no significant difference between groups on domains of disconnection and rejection, impaired autonomy, impaired limits, other-directedness, and overvigilance (P > 0.05).

Table 2 shows the results of MANOVA that was administered to compare groups on BI. Results of Wilk's Lambda showed no significant difference (F $(4, 115) = 1.90$; $P > 0.01$; Wilk's Lambda = 0.94; Partial $\eta2 = 0.062$). Results of the separate analysis indicated significant difference between cosmetic surgery and control groups on AE (P < 0.05), but the groups showed no significant differences on AO, FE, and FO (P > 0.05).

Table 3 shows the results of MANOVA that was conducted to compare groups' mean on self-esteem. Results of Wilk's Lambda showed no significant difference (F $(5, 114) = 0.80$; $P > 0.01$; Wilk's Lambda = 0.97; Partial

Table 4. Pearson correlation coefficients between EMSs and BI

Group	Variables	Disconnection and rejection	Impaired autonomy	Impaired limits	Other-directedness	Overvigilance
Cosmetic surgery group	AE	-0.22	-0.29*	0.15	0.04	0.13
	AO	0.05	0.02	0.23	0.06	0.02
	FE	-0.11	-0.06	0.14	0.06	0.03
	FO	-0.06	-0.10	0.04	-0.005	0.08
Control group	AE	-0.36**	-0.29*	-0.24	-0.05	0.08
	AO	-0.15	-0.27*	-0.05	0.09	0.13
	FE	-0.19	-0.23	-0.18	-0.002	0.17
	FO	-0.14	-0.26*	-0.03	0.12	0.19

* $P < 0.05$ ** $P < 0.01$

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$\eta2 = 0.027$). Results of the separate analysis indicated no significant difference between the groups' scores on the subscales of personal, social, academic, familial, and total self-esteem ($P > 0.05$).

Table 4 presents correlation coefficients between BI and EMSs. Findings suggested significant negative correlation between AE and impaired autonomy ($P < 0.05$) in patients with cosmetic surgery. In control group, the domain of disconnection and rejection showed significant negative association with AE ($P < 0.01$), and the domain of impaired autonomy showed significant negative correlations with AE, AO, and FO ($P < 0.05$).

Table 5 presents correlation coefficients between BI and self-esteem. Self-esteem was positively associated with AE ($P < 0.05$) in cosmetic surgery group. Also, results indicated significant positive correlations between self-esteem and BI dimensions in the control group.

To determine the contribution of self-esteem in the variance of BI, we first made the Bonferroni adjustment to reduce type I error in multiple paired comparisons; so the significance level for self-esteem remained 0.05, while it changed from 0.05 to 0.01 for EMSs.

According to the corrected significance level and due to the weak correlation of EMSs and BI, we refrained from conducting regression analysis for cosmetic sur-

gery group. However, in the control group, multiple regressions were conducted to determine the contribution of disconnection and rejection in the variance of AE.

Table 6 presents the results of regression analysis between disconnection/rejection and AE. According to our findings, the domain of disconnection and rejection was the significant predictor of AE in control group ($P < 0.01$) and could predict 13% of the variance of AE in this group.

According to the corrected significance level and due to the weak correlation of self-esteem and the domains of AO, FE, and FO, we refrained from conducting regression analysis for these variables in cosmetic surgery group, and AE was the only variable that entered into the regression analysis.

According to the findings of the multiple regression analysis, self-esteem was the significant predictor of AE in cosmetic surgery group ($P < 0.05$) and could predict 11% of the variance of AE in this group.

In the next step, the multiple regressions were conducted to determine the contribution of self-esteem in the variance of AE, AO, FE, and FO in the control group. The results are shown in Table 5.

Table 5. Pearson correlation coefficients between self-esteem and BI

Variables	Group	AE	AO	FE	FO
Self-esteem	Cosmetic surgery group	0.32*	-0.03	0.21	0.13
	Control group	0.55**	0.30*	0.44**	0.46**

* $P < 0.05$ ** $P < 0.01$

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Table 6. Regression analysis between the area of disconnection/rejection and AE in control group

Dependant	Predictors	R	R²	SE	df	F	B	β	t
AE	Disconnection and rejection	0.365	0.134	0.737	1. 58	8.938**	-0.488	-0.365	-2.990**

* P < 0.05 ** P < 0.01

According to the findings of the multiple regression analysis, self-esteem was the significant predictor of AE, AO, FE, and FO in control group. This variable could predict 31% of the variance of AE, 9% of the variance of AO, 20% of the variance of FE, and 21% of the variance of FO in this group.

4. Discussion

Present study aimed to compare patients with cosmetic surgery to normal individuals in terms of their EMSs, BI, and self-esteem. Due to the important role of schemas in BI and decision-making, we expected that patients with cosmetic surgery show a specific and different pattern of schemas compared to normal individuals, while the findings did not support this hypothesis. There are several explanations for this result. First, a review of existing literature on psychopathology of cosmetic surgery suggests that psychometric measure-based investigations have reported far less psychopathology compared to interview-based investigations (Goin, Burgoyune, & Goin, 1980; Sarwer et al., 1998; Alamdar Sarovi & Ghalebandi, 2004; Massoudzadeh et al., 2009); a finding that can explain our result. The other explanation refers to the important role of other contributing factors in seeking cosmetic surgery.

According to Swami (2009), the growing importance of appearance attractiveness and its importance in success have led to increased social pressure for attractiveness, such a way that sometimes social acceptance and interpersonal success greatly depend on perfect appearance. According to sociocultural perspective, people judge others based on physical appearance and behave differently toward them, in a way that attractive people are often treated more favorably than unattractive others (Cash & Pruzinsky, 2002). Obviously, in such a context, social variables play an important role in seeking cosmetic surgery. Likewise, Noghani, Mazloom Khorasani, and Varshoy (2010) found that culture, social pressure, and socioeconomic status have positive associations with seeking cosmetic surgery, while BI and social relationships have negative associations with it. It seems that sometimes social factors may play a more important role in seeking cosmetic surgery compare to psychological factors.

The findings indicated a significantly higher AE among cosmetic surgery patients, while the groups showed no significant difference in terms of their AO, FE, FO, and self-esteem. This finding is in line with the findings of Sarwer et al. (2000), Majdi (2002), Whitaker (2005), Sarwer (2005), and Holdun et al. (2007). According to these studies, cosmetic surgery can change BI; patients who are dissatisfied with a part of their bodies report enhanced satisfaction with their BI postoperatively. In addition, self-esteem is closely associated with BI; no surprise that people report increased self-esteem postoperatively, as they experience BI improvements.

The second aim of the present study was to investigate the relationships of BI with EMSs and self-esteem. Results indicated moderate to slight negative correlations between the domains of impaired autonomy and disconnection/rejection with AE, AO, and FO. Our results are in line with the findings of Stein and Corte (2008), and Ledoux et al. (2010) who showed that general negative schemas were associated with negative BI, and self-evaluative salience of appearance was related to impaired autonomy EMSs.

According to cognitive perspective, BI is a cognitive bias that originates from self-schemas including memories about body size or shape. One who is schematic for a self dimension may process related information different from someone who is not schematic (Cash & Pruzinsky, 2002). Thus, EMSs can play an important role in BI. According to our findings, the domain of disconnection and rejection was the significant predictor of AE in control group. It seems that these maladaptive schemas can lead

Table 7. Regression analysis between self-esteem and AE in cosmetic surgery group

Dependant	Predictors	R	R²	SE	df	F	B	β	t
AE	Self-esteem	0.325	0.106	0.633	1. 58	6.864*	0.033	0.325	2.620*

* P < 0.05 ** P < 0.01

Table 8. Regression analysis between self-esteem and the domains of BI in control group

Predictor	Dependant	R	R²	SE	df	F	B	β	t
Self-esteem	AE	0.555	0.308	0.658	1, 58	25.859**	0.055	0.555	5.085**
	AO	0.304	0.092	0.569	1, 58	5.899*	0.023	0.304	2.429*
	FE	0.445	0.198	0.795	1, 58	14.313**	0.050	0.445	3.783**
	FO	0.463	0.215	0.731	1, 58	15.853**	0.048	0.463	3.982**

* $P < 0.05$ ** $P < 0.01$

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to lower AE through affecting one's self-esteem or self-evaluations. According to Young et al. (2003), the people with these schemas experience various negative feelings about themselves and their relationship with others; these negative feelings can affect one's self-evaluation and make him/ her feel unattractive. Thus, negative schemas may affect one's decision for undergoing cosmetic surgery through affecting his or her AE.

Results indicated slight to moderate positive correlations between self-esteem and BI, and showed that self-esteem was the significant predictor of BI dimensions. These results are consistent with the studies which indicated negative correlations between BI dissatisfaction and self-esteem (Thompson, 1990; Keeton et al., 1990; Webster & Tiggeman, 2003; Mirza et al., 2005; and Bassak Nejad, 2011). As Cash (2002) and Swami et al. (2009) suggested, positive self-concept and self-esteem can facilitate the development of positive body evaluation and affect one's self-assessed attractiveness, and in this way affect their tendency toward cosmetic surgery.

In conclusion, it seems that cosmetic surgery is affected by various social and psychological factors, which affect and mediate one's decision for seeking cosmetic surgery, and we must consider all of these factors to gain a comprehensive understanding of this phenomenon. Moreover, although studies have confirmed the role of psychological factors in undergoing cosmetic operations, this relation has a reciprocal nature, in which both psychological processes and cosmetic surgery can affect each other.

Due to the important role of EMSs and self-esteem in BI, and given the significant role of BI in seeking cosmetic operations, related experts can use schema therapy and psychological interventions to enhance operation seeker's self-esteem and change their biased cognitions to prevent them from undergoing unnecessary and dangerous surgeries. This study has two limitations though. First, our study was cross-sectional, so it cannot discuss about patients' preoperative BI and self-esteem. Second, our sample was consisted of young university students, so the generalizations of the results to other groups should be done cautiously. We suggest that future studies investigate cosmetic surgeries' outcomes more accurately, by using longitudinal study design as well as pre- and post-operative assessing comparison in different social groups.

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